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ABSTRACT

The roles of institutional researchers in the overall goal setting and monitoring process were studied in 1982. In addition, the use of databases and new technology (e.g., computer models and planning aids, information retrieval systems, and national databases) as support mechanisms for assessment of institutional performance, and the methods used to set and monitor goals, were assessed. Respondents were a random sample of 219 members of the Association of Institutional Research. Of the respondents working in colleges and universities, over 90 percent held administrative positions or positions that were primarily administrative, with some teaching. About 90 percent of their institutions had given policy-level attention to goals during the past 3 years, usually for the development of a master plan at the institutional level. All but 8 percent had some involvement with goal setting and monitoring, and about 30 percent had a strong or very strong policy role. Of the 15 goal activities included on the questionnaire, the 2 with the highest level of institutional researcher involvement pertained to developing a broad statement of goals, and devising assessment or evaluation procedures relating operating unit achievement to achievement of institutionwide goals. (SW)

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GOAL SETTING: THE ROLES INSTITUTIONAL RESEARCHERS PLAY, AND THEIR USE OF DATA BASES AND TECHNOLOGICAL AIDS

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THE ASSOCIATION FOR INSTITUTIONAL RESEARCH

This paper was presented at the Twenty-Third Annual Forum of the Association for Institutional Research held at the Sheraton Centre in Toronto, Ontario, May 23-26, 1983. This paper was reviewed by the AIR Forum Publications Committee and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC Collection of Forum papers.

D. R. Coleman, Chairman
Forum Publication
Advisory Committee

ABSTRACT

A 1981 survey of AIR members included a 114-item taxonomy of institutional research activities. Goal setting was the seventh most frequent institutional research activity cited. This paper reports on a further study, conducted in 1982, which focused on (1) the actual roles of institutional researchers in the overall goal setting and monitoring process, (2) the methods used in their organizational frameworks to set and monitor goals, and (3) the use of data bases and new technology (computer models and planning aids, information retrieval systems, national data bases, etc.) as support mechanisms for assessment of institutional performance.

GOAL SETTING: THE ROLES INSTITUTIONAL RESEARCHERS PLAY, AND THEIR USE OF DATA BASES AND TECHNOLOGICAL AIDS

In the early history of the Association for Institutional Research (AIR), the campus roles played by fellow members were known to one another, and institutional researchers tended to be among the small cadre who used and saw the potential of information systems. As the Association matured, the membership grew and members' institutional roles diversified. In the information-oriented community which is now the customary environment for institutional research, more understanding of what persons involved in the enterprise actually do and how they perform their functions is needed.

The study which this paper summarizes was undertaken to update and expand information about certain roles played by institutional researchers in their own organizations, and to ascertain their use of certain types of information and technological resources. More specifically, the paper reports exploratory research findings about the roles institutional researchers play in setting and monitoring broad institutional goals, and about use of various types of data bases and of technological aids, particularly those associated with the microcomputer.

Introduction and Perspectives

A 1981 survey of AIR members included a 114-item taxonomy of institutional research activities. Respondents were asked to note if each item in the taxonomy was "a present or recent activity that you (or your office) have performed in the past two years." Goal setting was the 7th most frequent institutional research activity cited, with

this activity indicated by 357 (53%) of the 674 responding AIR members (Summer 1982 AIR Newsletter, p. 3). Of these 357 members, 167 (47%) were in institutional research offices per se, while the other 190 were in other settings. Just what roles institutional researchers actually play in goal setting, as well as procedures whereby goal setting is accomplished in their institutions were questions that the authors deemed worthy of further exploration, beginning with the inquiry reported in this paper.

Goal Setting and Monitoring

The literature indicates growing attention to the use of goal concepts in determining organizational policies and new program directions (Baldridge & Tierney, 1979; Miller, 1979; and Jedamus & Peterson, 1980). Institutions of higher learning, in contrast to business, industrial and certain other types of organizations which have been studied, however, are shown in the literature as relatively new and unsophisticated in development and use of goal concepts in leadership and management (Richman & Farmer, 1974; Hambrick, 1976). The presence of various kinds of goals, their value in different types of institutions and their interrelationships in different institutional settings have been measured (Peterson, 1970; Uhl, 1971; Martorana & Kuhns, 1975, 1979, 1981). Pertinent to these observations in the context of this paper is the question: What are the institutional researchers' roles in these activities?

The knowledge base for the concept of goals comes from the general field of organizational behavior as represented by Simon (1964) among others, as well as from research in the social sciences and in postsecondary education. Writers such as Dressel (1976),

Romney (1978), Miller (1979) and Fenske (1980) discuss the current "state of the art" in evaluating qualitative outcomes of postsecondary education, while others (Anderson, 1976; Hambrick, 1976; Richman and Farmer,1974) focus on the lack of consistent methodology and precision of measurement of institutional purposes as well as accomplishments.

Earlier and continuing attempts to use the goal concept in postsecondary education and planning (Peterson, 1970; Gross and Grambach, 1968, 1974; Peterson, 1970; Uhl, 1971; Martorana and Kuhns, 1975, 1979, 1981) also serve as background materials for this effort. Another aspect is represented by works on scaling developed and reported by Stevens (1975), Baird and Noma (1978), Martorana and Kuhns (1981), Lodge (1982), and Wegener (1982), with particular emphasis on the magnitude estimation measurement approach to social scaling. A related area, advances in information technology pertinent to institutional planning and assessment, is a rapidly developing field, discussed, for example, in recent collections edited by Heise (1981) and Sheehan (1982).

In typical institutional operations, once goals are defined, the first step toward achieving them often occurs when they are translated into objectives for the organizational units, such as departments, divisions, offices, standing committees, and so on. Desirable characteristics of such objectives are that they be measurable, have a time line, and include designation of leadership responsibility. In this context, our query is: What are the institutional researchers' actual roles in goal definition and this "first step" toward their accomplishment?

Given the mission of the institution, some goals are thought by

knowledgeable persons therein to be more important than others, as evidenced by use of the Institutional Goals Inventory (IGI) (Peterson, 1970; Uhl, 1971) and the interactive forces theory (IFT) (Martorana and Kuhns, 1975, 1979, 1981). These judgments of such people about the relative importance of institutional goals provide a basis for making institution-wide as well as operating unit decisions about program priorities and the use of available resources. In like manner, at any point in time some institutional goals are more nearly achieved than others. For operating unit decisions it is also useful to have information about the extent to which a goal has been achieved. The field can ask: Are institutional researchers involved in these determinations, and if so, how?

Data Sources, Methodology and Approach

Respondents for this study were a random sample of AIR members chosen from the latest AIR directory available in 1982. Only members whose listing showed an institutional or a state office affiliation and who lived in the United States, Canada or Mexico were included in the population from which the nth case was selected. Questionnaires were sent to a total of 311 AIR members. With one followup mailing, useable responses were received from 219, for a response rate of 70%. To preserve anonymity, the instructions indicated that only aggregate information would be reported. Questionnaires were coded to facilitate followup and to permit some minimal but necessary comparison of respondent and nonrespondent characteristics. A check of the distributions of respondents and nonrespondents in the sample surveyed on three variables which could be determined directly from available reference sources on higher institutions, (highest degree offered,

control, and size), showed no nonresponse bias in any of the three measures.

Information requested from respondents included several descriptive items, namely sex; age categories; whether employed at a college or university, and if so, its type of control; the person's professional status at the institution or office; the state or province location; whether employed in an institutional research office, and if so for what proportion of total working time; and years employed in the current position and the current organization. Information about the total enrollment and highest degree offered at the respondent's institution was obtained from postsecondary education directories.

Participants also were asked to indicate whether there had been institutional attention to goal setting during the past three years, and if so, the purposes served by this attention; for example, preparation for regional accreditation, or organizational long-range planning.

A crucial question asked was the institutional researchers' level of involvement in this attention to goals. Choices here ranged from no involvement to that of a very strong policy role in goal setting and monitoring at the respondent's institution.

Fifteen items describing the stages of goal setting and monitoring were included in the questionnaire. The primary source for determining these descriptors was the co-authors' work of a decade in the measurement of the level of goal aspiration and achievement at an institution (Martorana and Kuhns, 1975, 1978, 1981). For each of the fifteen descriptors of the cycle of goal setting and monitoring, respondents were asked to indicate on a scale of 1 to 5 the extent of any work they had done during the last three years.

Finally, respondents were also presented with a list of data bases, and a list of technological aids, and asked to apply the same Likert-type scale to indicate the level of use made of each resource in their work involving organization-wide goal setting and monitoring over the past three years. As a rough overall measure of data base and technological aid use, a count was also made of the number of data bases and the number of aids used by each respondent.

Findings

This exploratory report produces information of interest to institutional researchers from several perspectives: (1) the characteristics of those who responded, (2) those of their institutions, (3) the roles institutional researchers play in goal setting and monitoring, and (4) some of the resources they use to do this.

Description of the Respondents

The sample of respondents was heavily male (75%), and the modal age category was 40-59 (51%), with almost as many in the less than 40 category (44%).

Information about location was aggregated into six groups of states falling within the six accrediting regions (New England, Middle States, Southern, North Central, Western, and Northwest), plus a combined category for locations in Canada or Mexico. The largest concentrations of respondents came from states in the North Central region (35%), the Southern region (22%), and the Middle States region (18%). The groups of states for the other accrediting regions showed less than 10% each, while those from Canada and Mexico constituted 8% of the total sample.

Ninety two percent were employed by a college or university, and 69% came from institutions under public control. Those in the modal group were involved only in administrative work (69%), while another 25% were primarily administrators but did some teaching. Less than 10% held faculty roles, including those who also performed some administrative duties.

The largest group of respondents who were in an institutional research office reported working there from 81 to 100% of their time (42%), while the next largest group worked there from 41 to 60% (21%). Thirty three percent of the total number of respondents did not work at all in an institutional research office. Mean number of years in their current position was six, and mean number of years with their current organization was ten.

Description of the Institution

Respondents from colleges and universities tended to be employed by institutions with the doctorate as the highest degree (47%), while the smallest group came from campuses offering only the baccalaureate (11%). Those from institutions with some graduate or professional degrees accounted for 27% of the group, and those offering only the associate degree constituted 15%. The enrollment pattern was somewhat bimodal, with 32% of the respondents coming from institutions with 15,000 or higher, and 20% from those with enrollments between 2,000 and 4,999. Only 4% came from institutions enrolling less than 1000 students.

A remarkably large number (90%) of respondents' institutions gave attention to setting and monitoring goals over the past three years. When asked to specify the purpose of this attention, 46% indicated

preparation for regional accreditation or reaccreditation; 27% gave preparation for specialized accreditation; 36% indicated preparation or amendment of an institutional long range master plan for larger system or state use; and 72% cited work on a long range master plan for their own organization's use. Clearly, preparation or amendment of a long range master plan at the intitutional level is the most usual purpose of attention to goal setting and monitoring.

The Institutional Researchers' Involvement in Attention to Goals

Ninety two percent of the respondents reported at least some personal involvement in attention to goals at their own organizations within the past three years. The distribution in terms of policy role formed a bell-shaped curve, with the modal group (23%) having a moderate policy role. Sixteen percent provided information only, 22% had some policy role, 17% reported a strong policy role, while 13% indicated a very strong policy role. Thus approximately one third of the respondents indicated strong or very strong policy roles in goal setting and monitoring activities.

To reflect more detail about their work with goals, institutional researchers were asked for their level of involvement in fifteen goal-related activities. These activities span the cycle from goal setting through institution-wide monitoring, then back around for review, amendment and implementation of a new cycle. To illuminate the institutional researchers' roles, the fifteen activities are reproduced below, along with the percentage of respondents reporting that they were frequently or very frequently involved in a given activity. In a Likert-type rating scale, no involvement carried a value of 1, while the highest level was 5.

Goal Activity	Percentage Reporting Frequent or Very Frequent Involvement
1. Developing a formal statement of broad (organization-wide) goals	34%
2. Placing broad (organization-wide) goals into an order of importance or value attached	29
3. Determining institutional achievement of broad goals	31
4. Placing broad goals into an order of priority for organization-wide action	28
5. Translating broad goals into organizational policies	25
6. Translating broad goals into operating unit objectives (Operating units may be departments, divisions, schools, offices, standing committees, etc.)	28
7. Devising assessment/evaluation procedures relating operating unit achievement to achievement of broad goals	36
8. Applying assessment/evaluation procedures relating operating unit achievement to achievement of broad goals	28
9. Determining persistence of organizational value attached, that is, determining any changes in value attached to broad goals	11
10. Devising procedures to relate the achievement of broad goals to the level of value attached to such goals	8
11. Relating organizational achievement of stated broad goals to current levels of value attached to such goals	9
12. Reexamining priority placement of stated broad goals on the basis of evidence about the level of achievement of of each specific goal	15
13. Translating any changes in priority placement of broad goals into plans for changes in organization-wide policies and practices	18
14. Translating any changes in priority placement of broad goals into direct action to change organizational policies	18
15. Translating any changes in priority placement of broad goals into direct action to change organizational practices at the operating unit level	13

Approximately 30% of the institutional researchers reported frequent or very frequent involvement with the first eight goal-related activities. In summary, they were involved in developing goal statements, assigning them an order of importance (level of aspiration), determining their current level of achievement, placing them in priority order for organization-wide action, translating them into institutional policies and into operating unit objectives, and devising and applying evaluation procedures relating operating unit achievement to institutional achievement of broad goals. In a sense this ends one goal setting and monitoring cycle. Only about 10% of the respondents reported high level involvement with formal initiation of the next cycle, that is, redetermining at their institutions the level of aspiration and the level of achievement evident there for the stated broad goals, and utilizing an understanding of these levels of aspiration and achievement as baseline information for the next round of attention to goals. On the other hand, in Goal Activities #13-#15 the level of attention again rises somewhat as the focus turns to reexamining priority placement of goals on the basis of achievement, then translating any changes in priorities into plans for changes in policies and practices, including those at the operating unit level.

Use of Data Bases

Institutional researchers also reported on the level of use of six types of data bases in their goal setting and monitoring. These are listed below, along with the percentage of respondents noting frequent or very frequent use.

Data Base	Percentage Reporting Frequent or Very Frequent Use of Data Base
1. Data bases of national scope	19%
2. Data bases of regional or multi-state scope	22
3. Data bases of statewide scope	47
4. Data bases of regional sub-state scope	26
5. Data bases for only one system	44
6. Data bases for only one institution	75

From this evidence it appears that in goal-related activities institutional researchers make most frequent use of data bases for only one institution, followed by bases of statewide scope.

Use of Technological Aids

A final section of the questionnaire asked about use of technological aids in goal-related activities. Below are listed the aids appearing on the questionnaire, with the percentage of respondents reporting frequent or very frequent use of the aid in the goal setting and monitoring context.

Technological Aid	Percentage Reporting Frequent or Very Frequent Use of Aid
1. Computer simulations (models, decision-support systems, etc.)	18%
2. Information exchanged by electronic transmission	16
3. A microcomputer located in your organizational setting	30
4. A microcomputer located at your home	3
5. Computer-assisted management software for microcomputers	20

The microcomputer at the office was the technological aid used frequently or very frequently by the largest number of respondents (30%), and one in five (20%) reported this level of use for management software to run on the micro. As of 1982, when this study was conducted, few (3%) of the respondents used a microcomputer at home for goal-related activities.

Variables Related to Policy Roles In Goal Setting and Monitoring

A series of crosstabs (SPSS) provided information about the institutional researchers' policy roles in goal-related activities (the dependent variable) vis-a-vis selected independent variables explored in this study. Mean scores on the policy-level goal involvement scale (from no involvement to having a very strong policy role) were determined for subcategories of these items: institutional control, institutional location, size of institution, highest degree offered, sex, status, percentage of time devoted to institutional research, number of listed data bases and technological aids used, the presence or absence of institutional policy attention to goals in the past three years, and the two goal activities for which the largest percentage of respondents reported frequent or very frequent involvement (Goal Activities #1 and #7; see p. 9). The following display shows trends in these means from one category to another within the same variable. For the purpose of this exploratory effort, no attempt was made to compare the means statistically, although in passing it may be noted that the chi squares for the related crosstabs were found to be significant at the .05 level for eight of the twelve variables. The exceptions were institutional control, location, size, and number

of technological aids used by the responding institutional researcher; all but the last are institutional rather than personal descriptors.

Means on Goal Involvement Scale
For Respondents in Sub-Categories of Selected Variables

Goal Involvement Scale:

No involvement (1.0)	Information input only (2.0)
Some policy role (3.0)	Moderate policy role (4.0)
Strong policy role (5.0)	Very strong policy role (6.0)

CONTROL	Public=3.63 Private=3.74
LOCATION	NE=3.0 CANMEX=3.06 NC=3.61 SO=3.71 WE=3.89 MS=3.95
SIZE	1-999=4.5 1,000-1,999=4.0 2,000-4,999=4.03 5,000-9,999=4.07 10,000-14,999=3.47 15,000 & +=3.14
DEGREE	Assoc=3.96 Bacc=3.75 Grad-Prof=4.10 Doct=3.28
SEX	Female=3.34 Male=3.75
STATUS	Fac=1.8 Fac/Adm=3.25 Adm=3.63 Adm/Tea=4.24
PCT IR	Up to 20%=4.25 21-40%=3.9 41-60%=4.0 61-80%=3.76 81% & +=3.24
# BASES	0=2.06 1=2.7 2=3.25 3=3.54 4=3.88 5=3.78 6=4.0
# AIDS	0=2.83 1=3.58 2=3.89 3=3.5 4=4.31 5=4.81
POLGOALS	No=2.32 Yes=3.82
GOAL 1	Never=2.34 Seldom=3.0 Occas=4.11 Freq=4.54 VFreq=4.88
GOAL 7	Never=2.44 Seldom=3.5 Occas=3.78 Freq=3.79 VFreq=4.12

Three trends of particular interest to institutional researchers emerge from this display: (1) there is an inverse relationship between percentage of time devoted to institutional research and policy involvement in goal setting and monitoring; (2) another inverse relationship appears between size of institution and the institutional researcher's policy involvement; and (3) their lowest level of policy

involvement comes at the doctorate-granting institutions. One hypothesis for further study coming out of these relationships might be that the larger and more complex the institution, the more the institutional research role is one of staff rather than line administrative responsibility, with the further proposition that policy involvement in goal setting and monitoring tends to be done more by officials with line rather than staff responsibility. In terms of professional status, policy-level involvement in goal activities is higher for administrators than for faculty, but also higher for administrators who do some teaching than for those who reported a strictly administrative role.

This display also shows a generally positive relationship between the number of data bases and technological aids used by the institutional researcher, and that person's policy role in goal setting and monitoring. Public or private control and regional location seem to be inconsequential in terms of this policy role, but sex as an independent variable definitely makes a difference in policy role. Finally, some reliability information may be obtained from the last three items in this display. There is a marked rise in the institutional researcher's level of policy involvement if that person's institution has given formal attention to goals, and the same rise may be noted with progression from the reported status of "never involved" in the goal-related activity to "very frequently involved." (See p. 9 for a statement of Goals Activities # 1 and #7).

Summary, Conclusions and Implications

A 1981 survey of AIR members found goal setting to be the 7th most frequent institutional research activity cited. The present

exploratory study was undertaken to update and expand information about the involvement of institutional researchers in goal setting and monitoring, and their use of data bases and technological aids in this context.

Of those respondents working in colleges and universities, over 90% held administrative positions or those that were primarily administrative with some teaching. One third of the respondents did not work in an institutional research office, but of those who did, almost half were employed there from 81 to 100% of their time. A doctoral granting institution was the working environment of almost half of those institutionally based, and about a third were in institutions with total enrollments of 15,000 or more.

Some 90% of their institutions had given policy-level attention to goals during the past three years. The most frequent reason was development of a master plan at the institutional level.

All but 8% had some involvement with goal setting and monitoring in their institutions. Overall, however, the policy level was middle range, with the modal group reporting a moderate policy role. On the other hand, some 30% had a strong or very strong policy role.

Fifteen goal activities were included in the questionnaire. The two with the highest level of institutional researcher involvement pertained to developing a broad statement of goals, and devising assessment or evaluation procedures relating operating unit achievement to achievement of institution-wide goals. Institutional researchers reported some level of involvement in the complete cycle of goal-related activities. There was less evidence, however, of movement from one cycle to the next on the basis of comparing goal achievement against current value attached to goals previously

determined to be of high priority.

Data bases for their own institution were the most frequently used, with statewide data bases in second position. Of the technological aids listed, the most frequently used was the microcomputer located in the office, with second place going to management software for the micro. With both the data bases and the technological aids, there was a steady rise in the institutional researcher's policy role in goal activities as the number of data bases and aids used by that person also rose.

The institutional researcher's level of policy involvement showed an inverse relationship with size of institution and proportion of time devoted to institutional research. In addition, the policy level was lowest for those from institutions giving the doctorate. Since overall the respondents tended to be from large, doctorate granting institutions, and to work full-time in institutional research, the overall level of policy involvement simply reflects their profile, showing as a modal pattern a moderate policy role. The hypothesis was advanced that institutional research may be more of a specialized staff function in the large complex institution, while in the smaller, less complex setting the institutional researcher may be involved more often in line responsibilities and thus more apt to have a substantial policy role in goal setting and monitoring. Exploring this hypothesis could be a next step in tracing the evolution of institutional researchers' roles.

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